## **Abstract**

A memory device has data transceivers, write strobe transceivers, and read strobe transceivers. The data transceivers transfer input data to the memory device and transfer output data from the memory device. The write strobe transceivers transfer timing information of the input data. The read strobe transceivers transfer timing information of the output data. The memory device also has an auxiliary circuit for generating auxiliary information. The auxiliary information includes information different from the timing information of the input data and the output data. The auxiliary circuit uses the write and read transceivers to transfer the auxiliary information to and from the memory device.

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